

B) IN THE CLAIMS

1. (Currently Amended) A low profile computed tomography (CT) detector module for use in combination with an existing CT detector system, the detector system having a scintillator/photodiode array, the detector module having a first end comprising:

an x-ray transparent top layer;

an electrode on said top layer;

a block of direct conversion material, the electrode providing a common bias to the direct conversion material;

a substrate material electrically connected with the direct conversion material;

a signal processing chip electrically connected with the substrate material;

an end block support located at one end of the detector module physically interposed between the electrode and the substrate material, said end block support both acting as a support member and containing a connector in electrical connection with the substrate and further signal processing hardware;

a rigid graphite bottom layer supporting the substrate material, the top layer and bottom layer forming a sandwich type construction with the electrode, direct conversion material or scintillator/photodiode array, the substrate material and the signal processing chips chip being contained therebetween

~~a plurality of the detector modules being arranged in a rigid array and being movable from a first position out of the x ray beam, a second position wherein the low profile detector is partially within the x ray beam and a third position wherein the low profile detector fully overlaps the scintillator/photodiode detector array.~~

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Previously Presented) The low profile detector module of claim 1 wherein the detector module is buttable.

6. (Previously Presented) The low profile detector module of claim 1, the detector module also having a second end, the second end of the detector module being supported by the direct conversion material interposed between the electrode and the substrate and the direct conversion material extends to the edge of the detector module.

7. (Previously Presented) The low profile detector module of claim 1 wherein the detector module is not buttable.

8. (Currently Amended) The low profile detector module of claim 7 wherein the detector module has a second end and the second end of the detector module has an a second end support interposed between the top x-ray ~~translucent~~ transparent layer and the ~~bottom-graphite~~ graphite bottom layer.

9. (Cancelled)

10. (Currently Amended) A low profile detector module for a hybrid scintillation/direct conversion Computed Tomography (CT) imaging system, the CT imaging system having a scintillator/photodiode detector array, the detector module comprising:

a top x-ray translucent layer;

a bottom layer;

a high voltage electrode situated below the top layer;

a substrate material situated over a portion of the bottom layer;

a direct conversion block interposed between and in electrical connection with the electrode and part of the substrate material;

an ASICS chip in electrical connection with the substrate material;

an end block support located at a first end of the detector module, the end block support being physically interposed between the electrode and the substrate material, said end block support both acting as a support member and containing a connector in electrical connection with the substrate material and further signal processing hardware, the top layer and bottom layer forming a sandwich type construction with the electrode, direct conversion material block or scintillator/photodiode array, substrate material and the ASICS chips chip being contained therebetween;

~~a plurality of the detector modules being arranged in a rigid array and being movable from a first position out of the x-ray beam, a second position wherein the low profile detector is partially within the x-ray beam and a third position wherein the low profile detector fully overlaps the scintillator/photodiode detector array.~~

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Previously Presented) The low profile detector module of claim 10

wherein the detector module is buttable.

15. (Previously Presented) The low profile detector module of claim 14, the detector module also having a second end, the second end of the detector module being supported by the direct conversion material interposed between the electrode and the substrate and the direct conversion material extends to the edge of the detector module.

16. (Currently Amended) The low profile detector module of claim ~~15~~ 10 wherein the detector module is not buttable.

17. (Currently Amended) The low profile detector module of claim 15 ~~16~~ wherein the second end of the detector module has an end support interposed between the top and bottom ~~graphite~~ layers.

18. (Currently Amended) A low profile detector module for a hybrid scintillation/direct conversion Computed Tomography (CT) imaging system, the CT imaging system having a scintillator/photodiode detector array, the detector module comprising:

a top x-ray translucent layer having at least a bottom surface;

a high voltage electrode deposited over the bottom surface of the top x-ray translucent layer;

a bottom layer having at least a top surface;

a substrate material situated over a portion of the top surface of the bottom layer;

a direct conversion block interposed between and in electrical connection with the electrode and part of the substrate material;

an ASICS chip in electrical connection with the substrate material; and

said substrate material in electrical connection with further signal processing hardware;

an end block support located at a first end of the detector module, the detector module having a first end and a second end physically interposed between the electrode and the substrate material, said end block support both acting as a support member and containing a connector in electrical connection with the substrate material and further signal processing hardware, the top layer and bottom layer forming a sandwich type construction with the electrode, direct conversion ~~material~~block or scintillator/photodiode array, substrate material and the ASICS chip being contained therebetween;

a plurality of the detector modules being arranged in a rigid array and being movable from a first position out of the x-ray beam, a second position wherein the low profile detector is partially within the x-ray beam and a third position wherein the low profile detector fully overlaps the scintillator/photodiode detector array.

19. (Cancelled)

20. (Cancelled)

21. (Currently Amended) The low profile detector module of claim ~~20~~18 wherein the detector module is buttable.

22. (Cancelled)

23. (Currently Amended) The low profile detector module of claim ~~22~~18 wherein the substrate is a silicon substrate.

24. (Currently Amended) The low profile detector module of claim ~~23~~18 wherein the substrate material is a high density flex circuit.

25. (Previously Presented) The low profile detector module of claim 18 ~~23~~ wherein the substrate material is a multi-layer ceramic substrate.

26. (Currently Amended) The low profile detector module of claim ~~25~~18 wherein the detector module is not buttable.

27. (Currently Amended) The low profile detector module of claim 26 wherein the second end of the detector module has an end support interposed between the top and bottom graphite layers.